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NOTICE OF ALLOWANCE AND FEE(S) DUE

55497

7590

06/15/2009

VISTA IP LAW GROUP LLP

1885 Lundy Avenue

Suite 108

SAN JOSE, CA 95131

EXAMINER

JACOBI, MARY C.

ART UNIT

PAPER NUMBER

2123

DATE MAILED: 06/15/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,125	02/20/2004	Douglas J. Koslow	CA7037682001	5265

TITLE OF INVENTION: MECHANISM AND METHOD FOR SIMULTANEOUS PROCESSING AND DEBUGGING OF MULTIPLE PROGRAMMING LANGUAGES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	09/15/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

55497 7590 06/15/2009
VISTA IP LAW GROUP LLP
1885 Lundy Avenue
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SAN JOSE, CA 95131

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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nonprovisional	NO	\$1510	\$0	\$0	\$1510	09/15/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
JACOB, MARY C	2123	703-014000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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1885 Lundy Avenue
Suite 108
SAN JOSE, CA 95131

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 637 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 637 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability**Application No.**

10/784,125

Applicant(s)

KOSLOW ET AL.

Examiner

MARY C. JACOB

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendments filed 4/20/09.
2. ☒ The allowed claim(s) is/are 1-38.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. The response filed 4/20/09 has been received and considered. Claims 1-38 have been presented for examination.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Erich Tzou, Reg. No. 56,927 on 6/9/09.

The application has been amended as follows:

Claim 1, line 10, the phrase "an programming interface" was replaced with --the programming interface--.

Claim 18, line 12, the phrase "a programming interface" was replaced with --the programming interface--.

Claim 18, lines 27-28, the phrase "module, the second language portion; and" was replaced with --module; and--.

Claim 27, line 13, the phrase "a programming interface" was replaced with --the programming interface--.

Claim 28, line 10, the phrase "a programming interface" was replaced with –the programming interface--.

Claim 28, line 13, the word "request" was changed to –requests--.

Claim 28, line 16, the word "request" was changed to –requests--.

Claim 29, line 14, the phrase "a programming interface" was replaced with –the programming interface--.

Claim 29, lines 29-30, the phrase "module, the second language portion; and" was replaced with –module; and--.

Claim 30, line 12, the phrase "a programming interface" was replaced with –the programming interface--.

Claim Objections

3. The claim objections recited in the 12/19/08 Office Action have been withdrawn in view of the amendments to the claims, filed 4/20/09.

Claim Rejections - 35 USC § 101

4. The rejections of Claims 1-26 under 35 U.S.C. 101 recited in the 12/19/08 Office Action, have been withdrawn in view of the amendments to the claims, filed 4/20/09.

Claim Rejections - 35 USC § 102

5. The rejections of Claims 1-7, 12, 13, 15-17, 27, 28, 31-34 under 35 U.S.C. 102(b) as being anticipated by Hollander (US Patent 6,182,258) have been withdrawn in view of the amendments to the claims, filed 4/20/09.

Claim Rejections - 35 USC § 103

6. The rejections of Claims 8-11 under 35 U.S.C. 103(a) as being unpatentable over Hollander in view of Chan (US Patent 6,466, 898) have been withdrawn in view of the amendments to the claims, filed 4/20/09.

7. The rejection of Claim 14 under 35 U.S.C. 103(a) as being unpatentable over Hollander in view of Stallman et al ("Debugging with GDB: The GNU Source-Level Debugger", January 2002, book summary, obtained on www.gnu.org) have been withdrawn in view of the amendments to the claims, filed 4/20/09.

8. The rejection of Claims 18-23, 25, 26, 29, 30, 36, and 38 under 35 U.S.C. 103(a) as being unpatentable over Hollander in view of Chan have been withdrawn in view of the amendments to the claims, filed 4/20/09.

9. The rejection of Claims 24, 35 and 37 under 35 U.S.C. 103(a) as being unpatentable over Hollander in view of Chan, further in view of Stallman et al have been withdrawn in view of the amendments to the claims, filed 4/20/09.

Allowable Subject Matter

10. Claims 1-38 are allowed.

11. The following is an examiner's statement of reasons for allowance: While **Hollander et al** teaches (**claims 1, 27, 28**) a method, system comprising means, and a computer program product comprising a computer readable storage medium having executable code for debugging an electronic design comprising both an HDL portion and a general programming language portion, the method comprising interfacing between a simulator simulating the HDL portion and a debugger debugging the general programming language portion, wherein the simulator receives a plurality of simulator requests for simulation of the HDL portion from a programming interface when the simulator is not interrupted, the debugger interacting with the HDL portion through a simulator interface that can drive and sample HDL signals as well as call HDL tasks, access HDL variables, and display coverage information for HDL signals and generate debug results based upon the driving and sampling of HDL signals, calling of HDL tasks, and the accessing of HDL variables, and generate debug results based upon the executing and storing the debug results in a computer readable storage medium or displaying the debug results on a display apparatus, (**claims 18, 29, 30**) a method, system comprising means and a computer program product comprising a computer readable storage medium having executable code for processing of a design that is based on multiple programming languages, the design comprising a first language portion and a second language portion, the method comprising, performing a first

process on the second language portion of the design to cause interaction with the first language portion of the design to process the second language portion, the first language portion receives a plurality of requests for the processing for the first language portion from a programming interface when the first language portion is not interrupted, the second language portion interacting with the first language portion through a simulator interface that can drive and sample first language portion signals as well as call first language portion tasks, access first language portion variables, and display coverage information for first language portion signals and generate debug results based upon the driving and sampling of the signals, the calling of tasks, and the accessing of the variables of the first language portion, generating debug results and storing the debug results in a computer readable storage medium or displaying the processing results on a display apparatus, **Gay et al** (US Patent 6,188,975) teaches using breakpoints in a debugging program to signify to a hardware/software co-verification tool when to redirect hardware calls to a hardware simulator, when it is determined from the executing software code that interaction with the hardware simulator is necessary, using an interface to request a hardware operation from the simulator executing a hardware model, and providing data generated from the hardware module in response to the request, and **Profit, Jr.**, (US Patent 5,911,059) teaches an communications interface for controlling communications between an emulator emulating a target microprocessor and a hardware simulator simulating target circuitry, wherein the emulator communicates with the simulator through the interface when an event requires interaction between the target program and target circuitry, wherein the

communications interface contains a synchronization circuit to synchronize the emulator and simulator at a time other than when an event requires interaction of the target program with the target circuitry, **none of these references taken either alone or in combination with the prior art of record disclose (claims 1, 27, 28)** a method, system comprising means, and a computer program product comprising a computer readable storage medium having executable code for debugging an electronic design comprising both an HDL portion and a general programming language portion and **(claims 18, 29, 30)** a method, system comprising means and a computer program product comprising a computer readable storage medium having executable code for processing of a design that is based on multiple programming languages, the design comprising a first language portion and a second language portion, **specifically including:**

(claims 1, 27, 28) "...handling one of the plurality of simulator requests, which is identified by and sent to the external debugger by the programming interface, with the external debugger for the simulator that is interrupted, the external debugger calling a request processing module at the simulator to process the one of the plurality of simulator requests...providing continued access to the HDL portion which debugging, by using the external debugger, the general programming portion..."

(claims 18, 29, 30) "...determining whether there are one or more of the plurality of requests, which are identified by and sent to a processing module to perform the first process on the second language portion by the programming interface, waiting for the processing of the first language portion and indicating a need for the processing module

to call a request processing function at the first language portion; handling the one or more of the plurality of requests, which are identified by and sent to the processing module by the programming interface, for the processing of the first language portion by having the processing module call the request processing function at the first language portion that has been interrupted, at least one of the one or more of the plurality of requests for the processing of the first language portion...providing continued access to the first language portion which performing the first process on the second portion, by using the processing module...",

in combination with the remaining elements and features of the claimed invention. It is for these reasons that the Applicant's invention defines over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

12. Applicant's arguments, see pages 13-17, filed 4/20/09, with respect to Claims 1, 18, 27, 28, 29 and 30 have been fully considered and are persuasive. The rejection of the claims in view of the prior art of record have been withdrawn.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary C. Jacob whose telephone number is 571-272-6249. The examiner can normally be reached Tuesday-Thursday, 7AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Mary C Jacob/
Examiner, Art Unit 2123

/M. C. J./
6/10/09

/Paul L Rodriguez/
Supervisory Patent Examiner, Art Unit 2123